

In summary, claim 39 has been cancelled, and 41-43, 45, 46, and 51 have been amended. Accordingly claims 41-46 and 51 are active and reconsideration thereof is requested.

Claim Objections

Claims 45, and 46 were objected to because of certain informalities. Claim 45 depends is a dependent on the cancelled claim 40. Claim 46 because there was no antecedent for "said covering". Claim 45 has been amended to provide dependency on active claim 43, and claim 46 has been amended to provide the required antecedent basis to overcome these objections.

Claim Rejections – 35 USC Section 112

Claims 41-42, and 45 have rejected under 35 U.S.C.112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Concerning Claim 41, the examiner pointed out that it recited the limitation "said additional holes in the shadow mask located adjacent holes corresponding to most of said perimeter chips are dummy holes." The examiner indicated that this was unclear since the instant invention does not disclose this aspect. The examiner also pointed out that claim 41 was unclear because it recites limitation "said additional dummy holes omitted ... beyond said dummy holes"

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which was considered confusing since the instant invention recites contact holes and additional dummy holes, not contact holes, dummy holes and additional dummy holes.

The applicant respectfully disagrees with the examiner because all the aspects of the invention are shown and described in the specification and in amended claim 41. The term dummy holes was used in the claims to distinguish them from the holes 39 used in the prior art, see the admitted prior art in Figs. 1a and 2a. as compared to the instant invention in Figs 2b and 2c. The applicant has described and shown that additional holes 50 were required to improved the contact processing of the perimeter chips in the specification “....with additional holes 50 in the mask periphery 46 as shown in FIGS 2b and 2c, reduced contact resistance of contacts 20 of the perimeter chips 22, solved the contact resistance non-uniformity problem, significantly improved etching of oxide 28 in contacts 20 of the perimeter chips 22, and increased yield.” The applicant has deleted the term dummy holes and has now used the term “set of additional holes” to distinguish the prior art holes 39 from the additional holes 50. Further changes were made to clarify that the additional holes 50 were omitted in the saw blade lanes 66 and in the ring shaped exclusion zone 64 as clearly shown in Fig 2c. Accordingly, it is respectfully submitted that amended claim 41 should be allowed under 35 USC 112, second paragraph.

Concerning Claim 42, the examiner pointed out that it recited the limitation of “... inspecting the shadow mask using dummy holes along the edge of a dicing lane.” The examiner noted that the instant invention does not disclose this aspect and rather, the instant invention

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discloses that more additional holes are added to use the inspection tool. The examiner adds that the instant invention does not disclose dummy holes along the edge of the dicing lane.

The applicant respectfully disagrees with the examiner because all the aspects of the invention are shown and described in the specification and in amended claim 42. The applicant had in fact shown and described at least two embodiments to permit inspection; one in claim 42 and the other in claim 43. To understand the embodiment of claim 42, attention is directed to Figs. 2c and 2d and the statement in the specification "This pattern was ordinarily available at edges of perimeter chips on prior art mask 34 but additional holes 50 on mask 34' can obliterate the square corner pattern. In some cases the removal of some additional holes 50 to create mask dicing lanes 62' provides the square corner arrangement needed for the C4 mask inspection tool alignment step." Accordingly, it is respectfully submitted that amended claim 42 should be allowed under 35 USC 112, second paragraph.

Concerning Claim 45, the examiner pointed out that it recited the limitation of "... inspecting the shadow mask using a covering " and the examiner noted that the instant invention does not disclose this aspect.

The applicant respectfully disagrees with the examiner because all the aspects of the invention are shown and described in the specification and in amended claim 45. This aspect of the invention is directed to adding additional holes to the shadow mask that are placed in the periphery that could be covered. This aspect of the invention could be accomplished in a number of ways

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shown and described in the specification. Attention is directed to Figs. 2c and 5 and the following statements in the specification "Thus the inventors placed the C4 mask inspection tool fiducials on locations of the mask that would be covered by clamped ring 69 that holds that holds mask 34' to wafer 24. The C4 mask inspection tool fiducials were thereby placed within the range recognized by the C4 mask inspection tool but was outside the mask region exposed to vacuum deposition since those locations were covered by the guard ring. An alternative solution that would work equally well would be to provide a cover for the additional holes in the mask during mask inspection Such a cover for additional holes could be formed with masking tape." Accordingly, it is respectfully submitted that amended claim 45 should be allowed under 35 USC 112, second paragraph.

Double Patenting

The Examiner rejected claims 41,42,45,46, and 51 on the ground of nonstatutory obviousness type double patenting as being unpatentable over claims 1,2, 10-12, of US Patent 6,706,621 (hereinafter identified as '621 which is the parent of the present application and wholly owned by the same company) in view of Okazaki (US 6,293,270). The examiner points out that pending claims 41 and 51 are similler to '621 patented claims 1 and 2 taking in consideration of claims9-12 of the '621 patent. Pending claim 39 is recited in claim 7 of '621 patent. Further that the claims 42 and 45-46 would be obvious using '621 patent in view of Fig. 3A of Okazaki.

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The applicant respectfully disagrees that the claims of the subject application cover the same material as the '621 patent. The claims of the '621 patent are all directed to a method for forming a semiconductor wafer not fabricating a shadow mask. The parent application (now abandoned) from which both these cases originated is believed to have been divided because of a restriction requirement. In any event, the applicant hereby submits a Terminal Disclaimer To Obviate A Double Patenting Objection Over A Prior Patent. Accordingly the applicant submits that the examiner withdraw the rejection based on the ground of nonstatutory obvious double patenting.

Allowable Subject Matter

It is noted with appreciation that the examiner indicated that claims 43-44 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. By this response claim 43 has been rewritten in independent form including all limitations of the base and intervening claims. Accordingly, claims 44-46 which depends on claim 43 should be in condition for allowance along with claim 43.

Conclusion

Based on the foregoing, it is respectfully submitted that all the claims active in the subject patent application are in condition for allowance and that the application should be passed to issuance.

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The Examiner is urged to call the undersigned at the number listed below if, in the Examiner's opinion, such a phone conference would aid in furthering the prosecution of this application.

Respectfully submitted,

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